

1       objectionable language. For the reasons give above, applicant respectfully requests withdrawal of the  
2       outstanding rejection of Claims 1–14 under 35 U.S.C. § 112, second paragraph.

3       Claims 1–10, 13, and 14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over  
4       U.S. Patent No. 4,659,471 to Molin et al. in view of U.S. Patent No. 5,015,384 to Burke. For the  
5       following reasons, applicant respectfully traverses this rejection.

6       Independent Claim 1 as amended, from which Claims 2–10, 13, and 14 ultimately depend,  
7       recites that an influent stream containing organic material is contacted with active bacteria in a first  
8       anaerobic reactor wherein the active bacteria is recycled from a second anaerobic reactor. Applicant  
9       asserts that Molin et al. in view of Burke does not render obvious this aspect of the present invention.

10      The Examiner's Action in paragraph 3 acknowledges that Molin et al. does not teach recycle  
11     of anaerobic bacteria to the first anaerobic reactor, i.e., the hydrolysis reactor. The Examiner's Action  
12     asserts that it would have been obvious to one of ordinary skill in the art at the time the invention was  
13     made to return anaerobic solids to the first anaerobic zone of Molin et al. (i.e., hydrolysis reactor)  
14     directly from the second anaerobic zone of Molin et al. (i.e., methane fermentation reactor) because  
15     Burke teaches the advantages of returning anaerobic sludge. Applicant asserts that the above is not  
16     obvious when one carefully considers the teaching of Molin et al. and Burke.

17      First, Burke does not teach or suggest recycle of anaerobic bacteria from a second reactor to a  
18     first reactor. Burke teaches only one reactor and the recirculation of active bacteria to that reactor.  
19     This type of recirculation is already taught by Molin et al. at column 1, lines 42–43 and 45–46 wherein  
20     Molin et al. describes that separated sludge from the hydrolysis reactor effluent can be recirculated to  
21     the hydrolysis reactor. Thus, Burke adds nothing to the teaching of Molin et al.

22      Molin et al. is concerned with a method of controlling a process for treating hydroperoxide  
23     containing waste that is to be contacted with methane bacteria to degrade carbohydrates also present  
24     in the waste. Molin et al. describes that the methane bacteria (column 1, lines 20–26) are killed  
25     immediately even at low hydroperoxide concentrations. As a means of addressing this inability of the

methane bacteria to survive contact with hydroperoxide, Molin et al. discloses a process wherein the influent stream is treated in an anaerobic hydrolysis reactor (3) to remove the hydroperoxide. Molin et al. describes that the treated stream is then delivered to an anaerobic methane fermentation reactor (5) where the carbohydrates in the influent stream are degraded by the methane bacteria, free from the adverse effects of the hydroperoxide. Molin et al. describes that it is particularly important to control the peroxide content of the stream leaving the hydrolysis reactor and entering the methane fermentation reactor to avoid killing the methane bacteria which require long periods of time to build up a new culture. In view of hydroperoxide's toxic effect on the methane bacteria, any recycle of sludge from the methane reactor to the hydrolysis reactor would result in the destruction of the valuable methane bacteria, the very material that Molin et al. is trying to preserve. Thus, applicant asserts that the proposed modification to Molin et al. as outlined in the Examiner's Action would not be obvious because the result of such modification would be in direct conflict with the goal of Molin et al. of preserving the viability of the methane bacteria culture.

In view of the dependence of Claims 2–10, 13, and 14 from Claim 1, applicant respectfully asserts that the foregoing arguments are equally applicable to these claims, and therefore the subject matter of Claims 1-10, 13 and 14 is non-obvious over Molin et al. in view of Burke.

Dependent Claim 11 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Molin et al. in view of Burke as applied above and further in view of U.S. Patent No. 3,847,803 to Fisk. For the following reasons, applicant respectfully traverses this rejection.

As noted above, Claim 11 has been amended to recite that the recited elutriation step elutriates soluble products of digestion from particulate constituents. As noted in the Examiner's Action, Fisk at column 3, lines 47–56, discloses that decanted effluent liquid can be recycled back to predigestion tanks 22, 24, and 26. Applicant asserts that this teaching of recycling liquid back to the predigestion tanks does not render obvious the subject matter of Claim 11 which expressly recites a step of elutriating soluble products of digestion from particulate constituents. The removal of these

1 soluble products of digestion is advantageous because certain of these soluble products, such as  
2 ammonia or sulfides have an inhibitory effect on anaerobic bacteria. By removing the soluble  
3 products of digestion from the system, the bacteria are able to function in an uninhibited manner. For  
4 the foregoing reasons, and, for the reasons given above with respect to the Molin et al. and Burke  
5 references, applicant asserts that the subject matter of Claim 11 is nonobvious over the combination  
6 of Molin et al. in view of Burke and further in view of Fisk. Accordingly, applicant respectfully  
7 requests withdrawal of the outstanding rejection of Claim 11 under 35 U.S.C. § 103(a) as being  
8 obvious.

9 The Examiner's Action rejects Claim 12 as being obvious over Molin et al. in view of Burke  
10 and further in view of U.S. Patent No. 5,525,228 to Dague et al. In view of the cancellation of  
11 Claim 12 above, applicant asserts that the outstanding rejection is moot.

12 For the reasons given above, applicant asserts that the subject matter of Claims 1–11, 13, and  
13 14 is nonobvious over the applied art. Accordingly, applicant respectfully requests withdrawal of the  
14 outstanding rejections and allowance of the subject application. If the Examiner has any questions  
15 regarding the foregoing, he is invited to call applicant's attorney at the number listed below in order to  
16 resolve any outstanding issues in a timely and efficient manner.

17 Respectfully submitted,

18 CHRISTENSEN O'CONNOR  
19 JOHNSON & KINDNESS<sup>PLLC</sup>



20  
21 Jeffrey M. Sakai  
22 Registration No. 32,059  
23 Direct Dial (206) 224-0713

24 I hereby certify that this correspondence is being deposited with the U.S. Postal Service in a  
25 sealed envelope as first class mail with postage thereon fully prepaid addressed to: Assistant  
Commissioner for Patents, Washington, D.C. 20231, on January 10, 1997

Date: January 10, 1997

